



Chemical and Biological Defense

CBIAC
Information Analysis Center

Newsletter

Spring 2001

Volume 2 Number 2

A U.S. Department of Defense Information Analysis Center sponsored by the Defense Information Systems Agency, **Defense Technical Information Center**

RestOps ACTD Completes Baseline Exercise

By Christopher C. Harmel, Defense Group Inc.

The 16th February 2001 marked the end of a week-long exercise held at Osan Air Base, Republic of Korea, during which airmen and soldiers were challenged under real-world conditions to respond to, and operate in, a chemical and biological 'contaminated' environment. This Baseline Exercise was the first in a series of exercises/demonstrations conducted as part of the Restoration of Operations (RestOps) Advanced Concept Technology Demonstration (ACTD).

The RestOps ACTD is a five-year program that seeks to enhance the warfighter's ability to mitigate the effects of a chemical and biological (CB) weapons attack and quickly restore operational capability at fixed installations. The ACTD is co-sponsored by the Defense Threat Reduction Agency (DTRA), the ACTD executive agent, and U.S. Pacific Command (PACOM), the user sponsor. DTRA has designated its CB Defense Directorate as the program's technical manager while PACOM has designated Pacific Air Forces (PACAF) as the operational manager.

The objective of the five-year program is to demonstrate those actions that will contribute to protecting against and responding to a CB attack in order to restore operating tempo in mission execution and to support combat operations at fixed sites. More specifically, RestOps seeks to:

- Identify effective means of pre-attack protection

of personnel and critical equipment while maintaining operational agility;

- Identify CB collection, detection, identification and warning that is achievable to reduce vulnerabilities;
- Identify expedient methods of post-attack decontamination of personnel and personal equipment;
- Provide for enhanced decontamination of critical equipment and facilities necessary to restore and sustain operations;
- Provide enhanced ability to determine the extent and location of contamination; and
- Provide for improved post-attack medical treatment to exposed personnel.

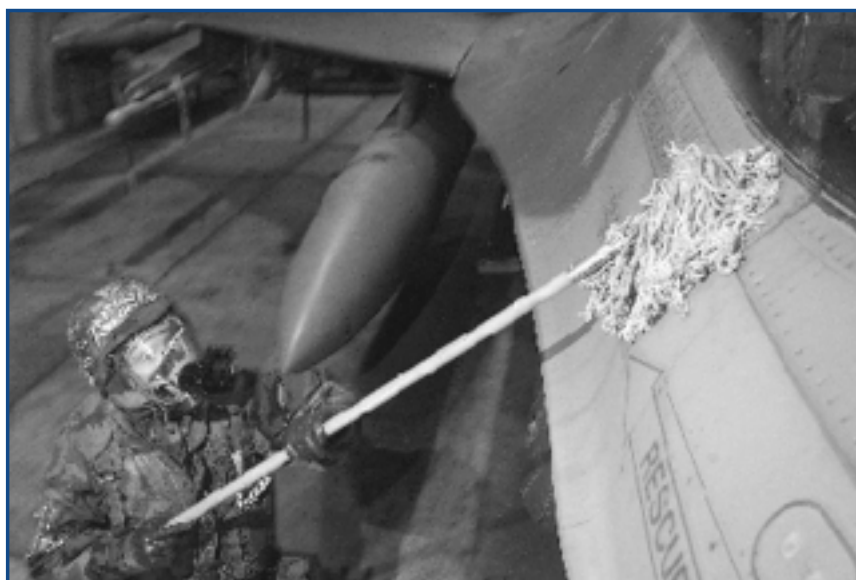


Figure 1. An F-16 from the 51st Fighter Wing being decontaminated by Osan airman in MOPP-4

The Technical Approach

RestOps is concurrently pursuing technical and operational approaches in order to achieve its objectives. From a technology perspective, RestOps began by canvassing domestic and international programs in both commercial and government sectors for applicable technologies. After an initial technology review, approximately 60

mature technologies in the areas of detection, protection, decontamination and medical treatment and prophylaxis were tested and evaluated in a combination of field, laboratory and chamber environments. A subsequent technology review, report, and recommendation process resulted in 29 of those technologies being downselected for further assessment.

The selected technologies will be integrated into a series of Limited Utility Assessments (LUAs) - some have already been completed-during which users will have the opportunity to

Continued pg. 9



The **Chemical Warfare/Chemical and Biological Defense Information Analysis Center (CBIAC)** is a Department of Defense (DoD-sponsored Information Analysis Center (IAC) operated by Battelle Memorial Institute and administered by the Defense Information Systems Agency (DISA), Defense Technical Information Center (DTIC) under the DoD IAC Program Office (Contract No. SPO700-00-D-3180). The CBIAC is supported by Horne Engineering Services, Inc., Innovative Emergency Management, Inc., MTS Technologies, Inc., QuickSilver Analytics, Inc., and SciTech, Inc. The CBIAC **Contracting Officer's Technical Representative (COTR) is Mr. Joseph D. Williams.**

CDR USA SBCCOM
Edgewood Chemical Biological Center
ATTN: AMSSB-RRT-OM (Joe Williams E3330)
5183 Blackhawk Road
Aberdeen Proving Ground, MD 21010-5424
Joseph.Williams@sbccom.apgea.army.mil

U.S. Government agencies and private industry under contract to the U.S. Government can contact the CBIAC for information products and services. CBIAC services also extend to all state and local governments and the first responder community to include local emergency planners, firefighters, medics and law enforcement personnel.

The CBIAC is located in Building E3330, Room 150 Aberdeen Proving Ground - Edgewood Area, Maryland 21010. For further information or assistance, visit or contact the CBIAC.

CBIAC
Aberdeen Proving Ground - Edgewood Area
P.O. Box 196
Gunpowder, MD 21010-0196
Tel: (410) 676-9030
Fax: (410) 676-9703
E-Mail: cbiac@battelle.org
URL: <http://www.cbicac.apgea.army.mil/>



TABLE OF CONTENTS

Spring 2001

Volume 2 Number 2

Feature Story:	
RestOps ACTD Completes Baseline Exercise	1
Validation Study-A Non-Clinical Trial	3
Contract Awards	4
New CBIAC Information Resources	5
Calendar of Events	6
In the News	10
New CBIAC Basic Products	11
CBAISS	12

The *CBIAC Newsletter*, a quarterly publication of the CBIAC, is a public release, unlimited distribution forum for chemical and biological defense information. It is distributed in hardcopy format and posted in Portable Document Format (PDF) on the CBIAC Homepage.

The CBIAC welcomes unsolicited articles on topics that fall within its mission scope. All articles submitted for publication consideration must be cleared for public release prior to submission. The CBIAC reserves the right to reject or edit submissions. For each issue, articles must be received by the following dates: Winter (First Quarter) - November 1st; Spring (Second Quarter) - February 1st; Summer (Third Quarter) - May 1st; Fall (Fourth Quarter) - August 1st.

All paid advertisements are subject to the review and approval of the CBIAC COTR prior to publication. The appearance of an advertisement or article in the *CBIAC Newsletter* does not constitute endorsement by the DoD or the CBIAC.

CBIAC POINTS OF CONTACT

Ronald L. Evans

CBIAC Director • evansrl@battelle.org

James M. King, Ph.D.

CBIAC Deputy Director • kingj@battelle.org

Janice E. Rhodes

CBIAC Technical Area Task Program Manager
rhodesj@battelle.org

Donald B. McGonigle

Knowledge Management and Development
mcgonigl@battelle.org

Jeanne M. Rosser

Inquiry and Referral Services; Information Processing
rosserj@battelle.org

Richard M. Gilman

Information Collection • gilman@battelle.org

Mary Jo Waters

Current Awareness & Promotions; Newsletter Editor
watersm@battelle.org

Validation Study – a Non-Clinical Trial

By Dr. Cheng J. Cao, Ms. Karen Heroux and Dr. James J. Valdes

SBCCOM's Molecular Engineering Team was selected by Gillette Company to be one of three laboratories conducting a toxicology validation study of Human Corneal Transepithelial Permeability (TEP) assay, an in-vitro assay which can be used to test chemicals for ocular toxicity. A validation study is a major step in the process of gaining FDA approval for a newly developed assay and this would be the first approved in-vitro, ocular assay.

The ability to evaluate the potential of a chemical or formulation to cause eye irritation or injury is of great importance in the safety testing of consumer products and other reagents. The Draize rabbit eye irritation test (Draize et al., 1944) has been the long-standing and widely used standard source for eye irritation or injury data. In support of alternative tests development, there have been numerous major programs by industry and government which evaluated diverse test systems for their ability to predict the Draize test data. These objectives address the needs for mechanism-based and human cell-based tests for supporting in vitro toxicology and human risk assessment. An in-vitro model based on human ocular tissue is most likely to be useful for this purpose since it may approximate the range of species-specific cellular targets, chemical metabolic profiles, and responses to toxic injury that occur in the intact target organ.

The human cell line 10.014 pRSV-T used in Gillette's model was derived from the transfection of primary human corneal epithelial cells (HCE) obtained from a single donor cornea. A significant feature of this cell line, termed HCE-T, is its extended life span in culture, which has established its utility in supporting a reproducible in-vitro model. The corneal epithelium is an appropriate structure for the development of an in-vitro alternative test for assessing ocular irritancy because this tissue provides a primary functional

barrier to toxicant penetration of the eye. Rather than the traditional monolayer culture, the HCE-T model presents a three-dimensional structure of HCE-T cells grown on a collagen membrane to provide a species- and tissue-specific equivalent of the human corneal surface in vivo. In this model, HCE-T cells stratify into four to six cell layers, similar to the corneal epithelium in the intact eye. Barrier function established by the HCE-T model can be determined by measuring transepithelial permeability to sodium fluorescein (TEP) and transepithelial electrical resistance (TER). A number of chemi-

cals have been examined for their effects on the barrier function using this model.

For further information, contact:

Dr. James Valdes

Phone: (410) 436-1396

Email:

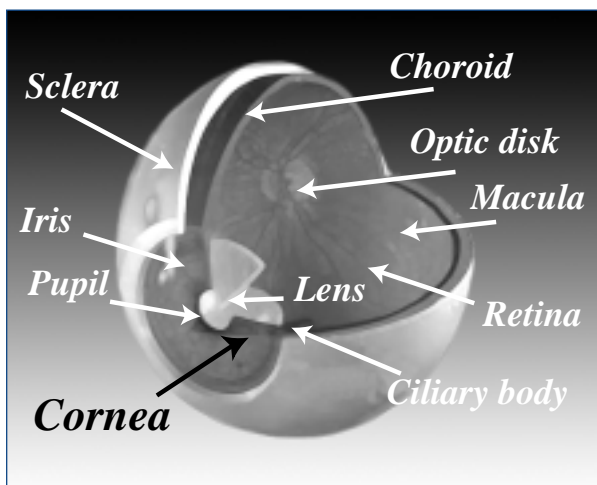
james.valdes@SBCCOM.APGEA.ARMY.MIL

About the authors:

DR. JAMES J. VALDES is the Chief Scientist, Biological Sciences and Scientific Advisor for Biotechnology, ECBC, Soldier and Biological Chemical Command. He holds a Ph.D. in neuroscience from Texas Christian University and has performed postdoctoral research in neurotoxicology at the Johns Hopkins Medical Institutions. He is the author of more than 80 peer-reviewed publications.

DR. CHENG J. CAO is a Senior Scientist at GEO-Centers, Inc. supporting the company's programs with ECBC's Molecular Engineering Team. She holds a Ph.D. in toxicology from Beijing Medical University and has performed postdoctoral research under grants from NIH at the University of Maryland School of Medicine. She has worked extensively in in-vivo and in-vitro pharmacology/toxicology and has a number of peer-reviewed publications.

KAREN S. HEROUX is a Scientist at GEO-Centers, Inc. supporting the company's programs with ECBC's Molecular Engineering Team. She holds a B.S. in biology from Towson University and is currently enrolled in a Masters program at Hood College in Frederick, MD. She has extensive experience in microbiology and cell cultures.



©Moorfields Eye Hospital NHS Trust, printed with permission from Moorfields Eye Hospital, London, U.K. <http://www.moorfields.org.uk/>

cals have been examined for their effects on the barrier function using this model. The results indicate that TEP and TER assays are useful endpoints for the evaluation of the chemically-induced damage to human corneal tissues. In this validation project, we completed phase II and III studies by conducting TEP and TER assays for 35 chemicals. The HCE-T model provides an alternative to experimental use of animals or humans for risk assessment of chemicals, toxins and drugs. Gillette's choice of SBCCOM to conduct this study is recognition by a Fortune 50 company of SBCCOM's technical excellence. As one of only three laboratories in the world certified to perform the validation study, SBCCOM is uniquely positioned to expand its role in in vitro toxicity testing, enhancing rev-



CONTRACT AWARDS • By Mary Frances Tracy

CBD Contracts:

Low Rate Initial Production Joint Biological Point Detection Systems

Advanced Technical Products, Inc., Intellitec Division
2000 Brunswick Lane
Deland, FL 32724
\$13,267,553. October 18, 2000
By Aberdeen Contracting Division of the Robert Morris Acquisition Center, Aberdeen Proving Ground, MD

Production and Spare Parts of 45 Smoke Generating Systems (M56)

General Dynamics Robotic Systems
Westminster, MD
\$12,114,066. December 21, 2000
By U.S. Army Materiel Command Acquisition Center, Aberdeen Proving Ground, MD

Development and Prototyping of an Individual Chemical Warfare Agent Detector Using Semiconducting Metal Oxide Chemiresistive and Polymer - Coated Surface Acoustic Wave Sensor Technologies

Sensor Research and Development Corporation
17 Godfrey Drive
Orono, ME
\$8,513,403. January 29, 2001
By Office of Naval Research, Arlington, VA

Other Contracts of Interest:

Interim Armored Vehicles to Equip an Interim Brigade Combat Team

GM GDLS Defense Group
Limited Liability Company
Sterling Heights, MI
\$3,998,349,372. November 16, 2000
By U.S. Army Tank-Automotive & Armaments Command, Warren, MI

Task Order Contract to Provide a Capability for Both Civilian and Military Agencies for Hazardous, Toxic and Radioactive Waste Remediation Project in Support of Local, State and Federal Governments

BEM Systems Inc
Chatham, NJ
\$6,000,000. December 5, 2000
By U.S. Army Corps of Engineers, Mobile, AL

Support for the Development of a Training Course for Medical Practitioners

Advanced Biosystems, Inc., Subsidiary of Hadron, Inc.
Alexandria, VA
December 7, 2000
By University of Alabama, Birmingham, AL

Preplaced Remedial Action Contract, Environmental Hazardous, Toxic and Radioactive Waste Remediation, Both Military and Civilian Agencies

Sevenson Environmental

Niagara Falls, NY
\$300,000,000. December 11, 2000
By U.S. Corps of Engineers, Kansas City, MO

Long Term Response Action Operation and Monitoring in Environmental Protection Agency Region II and the Corps of Engineers Northwest Division

URS Group Inc.
Bethesda, MD
\$500,000 (Part of \$12,500,000). January 25, 2001
By U.S. Corps of Engineers, Kansas City, MO

Sequence the Genomes of Pox Viruses and Establish an Internet-Based Clearinghouse on Viruses

St. Louis University
St. Louis, MO
\$1,800,000. January 19, 2001
By National Institute of Allergy and Infectious Diseases, Bethesda, MD

Chemical-Biological Mask Facepiece Lens

Scott Aviation,
Monroe Plant
309 W. Crowell Street
Monroe, NC
\$25,642. January 29, 2001
By Defense Personnel Support Center, Philadelphia, PA

Provide Face Pieces to the MCU-2 A/P Gas Mask

(Modification to a Firm-Fixed-Price Contract)
Mine Safety Appliances Co.
Murrysville, PA
\$9,621,700. February 2, 2001
By Warner Robins Air Logistics Center, Robins AFB, GA

Analysis and Interpretation of Real-Time Multi-Parameter Biological Data

Geo-Centers, Inc.
7 Wells Avenue
Newton Centre, MA
\$99,759. February 5, 2001
By U.S. Army Medical Research Acquisition Activity, Ft. Detrick, MD

Chemical-Biological Mask

Mine Safety Appliances Co.
Defense Products Dept.
PO Box 428
Pittsburgh, PA
\$751,357. February 2, 2001
By WR-ALC/PKXOA, Robbins Air Force Base, GA

Maintenance and Support of the M93 Fox Nuclear Biological Chemical Tactical Vehicle

General Dynamics Land Systems Inc.
Sterling Heights, MI
\$8,238,819. February 8, 2001
By U.S. Army Tank-Automotive & Armaments Command, Rock Island, IL

NEW CBIAC INFORMATION RESOURCES • By Richard M. Gilman

Books

Lavoy, Petter R., Scott D. Sagan and James D. Wirtz. **Planning The Unthinkable: How New Powers Will Use Nuclear, Biological and Chemical Weapons.**

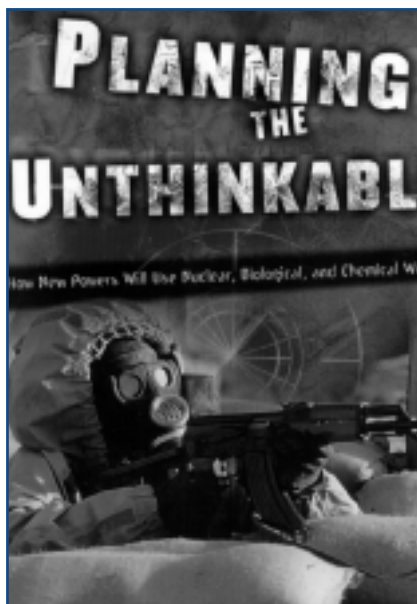
Ithaca, N.Y. and London: Cornell University Press, 2000, pp. 260.

"The new century...began with a looming sense of danger. Proliferation of nuclear, chemical, and biological weapons has become a fixture on the strategic landscape. The crises of the late 1990s are warning signals of more dangerous crises brewing just over the horizon.

This book examines how new powers will use the chemical, biological, and nuclear weapons that they have developed or are trying to acquire. Many books and articles examine why states have developed nuclear, chemical, and biological weapons. This volume, however, looks toward the future, examining the evolving military doctrines and command systems of the states and non-state groups that have such weapons. It addresses how the leaders of new proliferators think about the use of this weaponry and how they ensure that the weapons will be used when, but only when, they decide they should be used."

(Introduction)

This work contains chapters on Iran, Iraq, Israel, India and Pakistan. Figures, tables and an index are included.

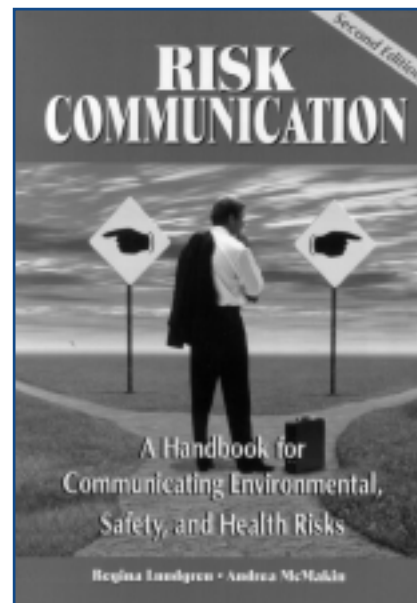


CB-160385
ISBN 0-8014-8704-8
Cornell University Press
Sage House
512 East State Street
Ithaca, N.Y. 14850
Phone: (607) 277-2211
Fax: (800) 688-2877
<http://www.cornellpress.cornell.edu>

Lungren, Regina and Andrea McMakin. **Risk Communication: A Handbook for Communicating Environmental, Safety and Health Risks.**
2nd edition. Columbus, OH: Battelle Press, 1998, pp. 329.

"As penalties for corporate and personal risks increase, communicating risk-related information can be a daunting challenge. Communication must be targeted, understandable, and effective without inadvertently provoking hostility and mistrust. *Risk Communication*, a handbook of strategies and guidance for conveying risk information effectively, has proven a valuable resource. In this second edition, readers get the latest updates on pertinent topics—including current laws, approaches, computer applications, stakeholder participation methods, and methods to evaluate effectiveness. All-new sections explain how to work with the media and represent risks pictorially."

(Publisher's Commentary)



CB-175482
ISBN 1-57477-055-1
Battelle Press
505 King Avenue
Columbus, OH 43201
Phone: 1-800-451-3543
Fax: (614) 424-3819
<http://www.battelle.org/bookstore>

Mauroni, Albert J. **America's Struggle with Chemical and Biological Warfare.** Westport, CT: Praeger, 2000, pp. 320.

This multifaceted work is a history of the U.S. Chemical Corps from 1968 through 1990, a discussion of the evolution of CBD military doctrine and policy and a critique of same. In Part I the author describes how, "...the army turned its back on the Chemical Corps." Part II deals with, "...the rationale behind the defensive equipment developed in the 1980's, in addition to the budding binary chemical weapons program." Part III, "...shows where these programs faltered." Part IV, "...shows how all the training and equipment development paid off, in the Gulf War and at home." Tables, figures, photographs, a bibliography and an index are included.

CB-144435
ISBN 0-275-96756-5
Praeger Publishers
88 Post Rd. West
Westport, CT 06881
Phone: 1-800-225-5800
<http://www.praeger.com>

CALENDAR OF EVENTS

The CBIAC highlights conferences, symposia, meetings, exhibitions and workshops of interest to the CBD community both on our website and in every issue of our newsletter. If you would like to have a CBD-related event posted on the CBIAC Calendar of Events, submit the pertinent information via email to cbiac@battelle.org. Due to space limitations, the CBIAC will accept submissions on a first-come, first-served basis and reserves the right to reject submissions. For a more extensive list of events, [visit our website at http://www.cbic.apgea.army.mil/](http://www.cbic.apgea.army.mil/).

2001 MEETINGS

May 8-10, 2001

Force Protection Equipment Demonstration III (FPED III)

(pre-registration required)

Quantico Marine Corps Base

Quantico, Virginia

<http://www.monmouth.army.mil/smc/pmpse>

May 9, 2001

Disaster Management for the New Millennium

Sheraton Biscayne Bay

Miami, Florida

American Society for Industrial Security (ASIS)

Tel: (703) 519-6200

Email: asis@asisonline.org

<http://www.asisonline.org/calendar.html>

May 13-18, 2001

Enzyme 2001: International Symposium on Applications of Enzymes in Chemical and Biological Defense

Sheraton World Resort

Orlando, Florida

POC: Debbie Bilotto

Tel: (410) 612-8247

Email: bilotto_deborah@bah.com

May 14-15, 2001

Contingency and Operational Procurement Exhibition (COPEX) 2001

Hyatt Regency Crystal City

Arlington, Virginia

<http://www.iacsp.com/copex.html>

May 14-15, 2001

9th Annual Terrorism Trends & Forecasts 2001 (held during COPEX – USA 2001)

Arlington, Virginia

POC: The International Association for Counterterrorism & Security

Professionals (IACSP)

Tel: (703) 243-0993 or (201) 461-5422

http://www.iacsp.com/annual_symposium.html

May 14-16, 2001

NATO Human Factors and Medicine (HFM) Panel Symposium: "Operational Medical Issues in Chemical and Biological Defense"

Lisbon, Portugal

POC: John V. Wade, D.V.M., Ph.D.

Tel: (703) 413-7817

Email: wadej@battelle.org

May 14-17, 2001

Global Demilitarization Symposium & Exhibition (#1580)

Reno, Nevada

POC: Rhonda Mohrmann

Tel: (703) 247-2586

Email: rmohrmann@ndia.org

<http://www.ndia.org>

<http://register.ndia.org/interview/register.ndia?~Brochure~1580>

May 14-18, 2001

Eco-Informa 2001: Environmental Risks & the Global Community

Argonne National Laboratory

Argonne, Illinois

POC: Joan Brunsvold

Tel: (630) 252-5585

Email: jbrunsvold@anl.gov

<http://eco-informa.ead.anl.gov/>

May 21-24, 2001

2001 Acquisition, Logistics and Technology Conference

Lancaster Host Resort and Conference Center

Lancaster, Pennsylvania

POC: Jo Ann Brown

Tel: (310) 698-2686

Email: jabrown@sherikon.com

<https://altconf.sherikon.com/>

May 22-24, 2001

CWD2001: The International CW Demil Conference

Nagaragawa International Convention Center

Gifu City, Japan

POC: DERA

http://www.dera.gov.uk/cwd2001/chemical_weapons_demilitarisation_conference.htm

May 22-24, 2001

SBCCOM Warrior Systems APBI and Exhibition: Technology Leveraging for Public Safety

Reno, Nevada

(#1960)

POC: Ann Saliski

Tel: (703) 247-2577

Email: asaliski@ndia.org

<http://register.ndia.org/interview/register.ndia?~Brochure~196>

May 29-31, 2001

DMSO Industry Days 2001

Sheraton Premiere at Tyson's Corner

Vienna, Virginia

<http://www.trainingsystems.org/events/11D.htm>

June 4-7, 2001

The Sixth International In Situ and On-Site Bioremediation Symposium

Sheraton Harbor Island

San Diego, California

POC: The Conference Group

Tel: (800) 783-6338 or (614) 424-5461

Email: conferencegroup@compuserve.com

<http://www.battelle.org/environment/er/biosymp/biosymp.html>

Calendar of Events *cont.*

June 4-8, 2001

COURSE: Field Management of Chemical and Biological Casualties (FCBC)

#6H-F27

USAMRICD, Aberdeen Proving Ground, Maryland
(Advance registration required)

POC: Chemical Casualty Care Division, USAMRICD

Tel: (410) 436-2230 or DSN: 584-2230

Email: cora.randle@amedd.army.mil

<http://ccc.apgea.army.mil>

June 11-15, 2001

National Operations Security Conference & Exhibition

Westin Innisbrook Resort

Tampa, Florida

POC: McNeil Technologies

Tel: (410) 553-6465

http://www.iooss.gov/html/opsec_conferences/national2001/overview.htm

June 12-14, 2001

69th MORSS

US Naval Academy

Annapolis, Maryland

POC: MORSS

Tel: (703) 751-7290

Email: morsoffice@aol.com

<http://www.mors.org/>

June 15-19, 2001

International Symposium on Protection against Chemical and Biological Warfare Agents

Stockholm City Conference Centre

Norra Latin, Stockholm, Sweden

POC: Kurt Persson (scientific programme)

Tel: +46-90-106 773

Email: persson@ume.foa.se

POC: Asa Lundvall (exhibition)

Tel: +46-90-106 727

Email: lundvall@ume.foa.se

POC: Marianne Olofsson (registration)

Tel: +46-90-106 602

Email: molofsson@ume.foa.se

<http://www.cbwsymp.foa.se/>

July 9-13, 2001

2001 World Wide Chemical Conference and Chemical Warfighters Conference

(#1300)

Ft. Leonard Wood, Missouri

POC: Christina Buck

Tel: (703) 247-9478

Email: cbuck@ndia.org

<http://www.ndia.org>

<http://register.ndia.org/interview/register.ndia?~Brochure~1300>

<http://www.wood.army.mil/usacmls/wwcc/wwcc.htm>

July 24-26, 2001

The 2001 DOE Chemical and Biological Nonproliferation Program (CBNP) Summer Meeting

Crystal City Marriott

Arlington, Virginia

POC: Rick Kingman

Tel: (703) 535-8725 x106

Email: kingmanr@defensegp.com

<http://www.nn.doe.gov/cbnp>

July 24-29, 2001

18th Annual Firehouse Expo AND Emergency Medical Services-Mass Casualty Incidents (EMS-MCI) Conference & Exposition

Baltimore Convention Center

Baltimore, Maryland

POC: Cygnus Expositions

Tel: (800) 827-8009 ext. 3348/3349 or (952)894-8007

<http://www.emsmci.com>

http://208.42.105.26/firehouseexpo/events_ems.po

August 6-10, 2001

International Conference on Disaster Management

Rosen Centre Hotel

Orlando, Florida

POC: David Tait

Tel: (850) 906-9221

Email: mail@disastermeeting.com

<http://www.disastermeeting.com>

August 26-30, 2001

Force Health Protection 2001: Service to the Soldier

Albuquerque, New Mexico

<http://chppm-www.apgea.army.mil/fhp/>

September 4-7, 2001

DTRA's First Biennial Threat Reduction Conference

Norfolk, Virginia

Tel: (703) 767-0145

Email: DTRAConferenceCoordinator@dtra.mil

<http://www.ThreatReductionConference.org>

September 5-6, 2001

Wetlands & Remediation: The Second International Conference

Sheraton Burlington

Burlington, Vermont

POC: Karl Nehring

Tel: (614) 424-7604.

Email: wetlandsconf@battelle.org

<http://www.battelle.org/wetlandscon/default.htm>

September 15-21, 2001

COURSE: In-House Medical Management of Chemical and Biological Casualties (MCBC)

#6H-F26

USAMRICD, Aberdeen Proving Ground, Maryland and

USAMRIID, Fort Detrick, Maryland

(Advance registration required)

POC: Chemical Casualty Care Division, USAMRICD

Tel: (410) 436-2230

DSN: 584-2230

Email: cora.randle@amedd.army.mil

<http://ccc.apgea.army.mil>

INFO. RESOURCES *cont.***Documents from the Web**

Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction. **Toward A National Strategy for Combating Terrorism.** Second Annual Report to the President and the Congress of the United States of the Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction. Washington, D.C.: Rand Corporation, 2000. <http://www.rand.org/organization/nsrd/terrpanel/>

CB-177371
Rand Corporation
1333 H Street, N.W.
Washington, D.C. 2000-4707

Larsen, Col. Randall J. and Dr. Ruth A. David. **Homeland Defense: Assumptions First, Strategy Second.** Journal of Homeland Defense. Nov. 30, 2000. <http://www.homelanddefense.org/journal/Articles/article.cfm?article=1>

CB-124722
Anser Corporation
Arlington, VA 22202

Lee, William E. and H. Gail Thompson. **Analysis of Bacillus Globigii Spores Using the Biodetector.** Technical Memorandum 1999-154. Medicine Hat, Alberta: Defense Research Establishment Suffield, 1999. Available from GrayLit Network website (<http://graylit.osti.gov>). Select "DTIC Report Collection" and do a title or keyword search.

CB-171956
Defense Research Establishment Suffield
Ralston, Alberta
Canada

Garland, J. A. et al. **The Hazard From Reaerosolized Biological Warfare Agents.** London: European Research Office of the U.S. Army, 1999. Available from GrayLit Network website (<http://graylit.osti.gov>). Select "DTIC Report Collection" and do a title or keyword search.

CB-168367
European Office of the U.S. Army
London

Research at Army's MRICD Featured in New Book: Chemical Warfare Agents: Toxicity at Low Levels

by Cindy Kronman, U.S.A. MRICD PAO

The research findings of scientists pursuing the Army's mission of developing medical protections against the effects of chemical warfare agents are the substance of a new book by CRC Press entitled **Chemical Warfare Agents: Toxicity at Low Levels**. The book is edited by Dr. Satu M. Somani and Col. James A. Romano, Jr. Dr. Somani, of Southern Illinois University School of Medicine, has conducted research on nerve agents under contract for the U.S. Army Medical Research and Materiel Command (USAMRICD) for over 15 years. Col. Romano, who holds a doctorate in experimental psychology, is the commander of the USAMRICD, at Aberdeen Proving Grounds, the Defense Department's premiere laboratory for medical chemical defense research.

Seven of the book's fourteen chapters were authored or co-authored by USAMRICD's experts in the toxicity of chemical warfare agents and the development of medical countermeasures. In addition, scientists from USAMRICD's sister laboratory, the Walter Reed Army Institute of Research, contributed to the book, as did scientists from the U.S. Army Edgewood Chemical Biological Center, the U.S. Army Center for Health Promotion and Preventive Medicine, academia, and allied government research laboratories.

The comprehensive text covers such topics as the health effects of low level exposure to nerve agents and to the blister agent sulfur mustard, the acute and chronic toxicity of cyanide and riot control agents, the development of pharmacological countermeasures to botulinum intoxication, and the psychological factors in chemical warfare and terrorism. Chapters explore how stress can affect the toxicity of chemical agents and the effectiveness of treatment compounds and describe the Army's pursuit of new methods of detoxification through the development of circulating scavenger enzymes and enzymes covalently bound to a decontaminating sponge. In addition, the last chapter discusses the emergency response to a chemical warfare incident, describing domestic preparedness, first response, and public health considerations.

Dr. James M. King, Deputy Director of the CBIAC, is co-author, along with Col. James A. Romano, of chapter 13, which addresses "Psychological Factors in Chemical Warfare and Terrorism." Dr. King holds a doctorate in Psychology from the University of Texas at Arlington and has collaborated regularly with Col. Romano. **Chemical Warfare Agents: Toxicity at Low Levels** is part of the CBIAC collection.

Somani, Satu M. and James M. Romano, Jr., eds. **Chemical Warfare Agents: Toxicity at Low Levels.** Boca Raton, FL: CRC Press, 2000.

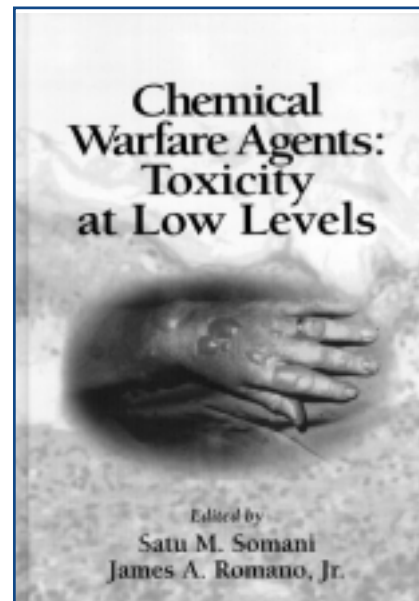


Col. James A. Romano
Commander, USAMRICD



Dr. James M. King
Deputy Director, CBIAC

CB-104244
ISBN 0-8493-0872-0
CRC Press LLC
2000 N.W. Corporate Blvd.
Boca Raton, FL 33431
Phone: 1-(800) 272-7737
Fax: 1-(800) 374-3401
<http://www.crcpress.com/us/>



“RestOps ACTD...” *cont.*

provide preliminary usability and suitability data and feedback. These "operational merit" assessments will then translate into a further downselection of technologies that will be deployed to Osan AB for operational evaluation during the Preliminary Demonstration in February 2002. The LUAs serve another purpose in that they represent the point at which the technology and operational approaches to RestOps begin to merge in order to develop integrated and comprehensive solutions for achieving RestOps objectives.

The Operational Approach

From the operational perspective, RestOps activities have included a Background Visit as well as preparation for, and execution of, the Baseline Exercise. The Background Visit was conducted early in FY00 in order to characterize Osan AB's current operations and infrastructure, in-place CB defense technologies, installation layout, airfield operations and relevant tactics, techniques and procedures (TTPs). The information collected during the Background Visit also served to identify the critical wartime functions at Osan AB that needed to be further characterized during the Baseline Exercise.

Planning for the Baseline Exercise took a considerable amount of effort and proved to be a logistical challenge. Approximately 450 subject matter experts, data collectors, exercise managers and support personnel deployed to Osan AB for the event. RestOps personnel were on-site weeks in advance of the exercise in order to familiarize themselves with both facilities and the people and operations they would be observing. After the exercise was completed, the data collectors were required to remain on-site in order to transfer their data into a master database.

The objective of the exercise was to establish a baseline of how the base currently prepares for and responds to a chemical-biological attack. This baseline acts as a yardstick by which RestOps can measure

any enhancements to mission capability provided by new or revised procedures and new technology.

Over the course of the seven-day exercise, RestOps personnel successfully collected thousands of data points covering 18 major functional areas across the entire base. Functional areas covered included: F-16 and A-10 fighter squadrons; munitions; command and

control; civil engineering (CE) and CE Readiness; security; medical; supply; and logistics. Also included in the functional areas were tenant units at Osan such as the Army Patriot units and Air Mobility Command. The exercise scenario was executed as planned and was judged to have realistically stressed the fighter wing.

Over the next few months, the data generated during the Baseline

Exercise will be analyzed and exercise conclusions will allow for recommendations and adjustments to be implemented in Osan CB procedures prior to the preliminary demonstration early in 2002. The procedural enhancements resulting from the exercise will then be coupled with technologies emerging from the LUAs and RestOps will move down the road to its next major event - the Preliminary Demonstration - scheduled for February 2002. The results of the Preliminary Demonstration will in turn lead to the execution of the Final Demonstration to be conducted in February 2003. The ultimate goal of the five-year process is to introduce new technologies and procedures across the Department of Defense for chemical and biological defense enhancements at fixed sites worldwide.

For further information, contact:

Mr. David Harrison
RestOps ACTD Technical Manager, DTRA CB
Phone: (703) 767-5725
Email: david.harrison@dtra.mil.



Figure 2. Three airmen don MOPP 4 gear and prepare to take cover during a SCUD 'attack' on Osan AB

IN THE NEWS • By Mary Frances Tracy

Russia Vows to Start Destroying Chemical Arms

Tyler, Patrick E.

<http://www.nytimes.com/2001/02/09/world/09WEAP.html>

February 9, 2001

Russia has pledged to begin the destruction of 40,000 tons of lethal chemical weapons this summer. In March, a plan for the operation of the destruction plants will be presented to President Vladimir V. Putin. However, skepticism is high since Russia failed to accomplish the destruction of one percent of the chemical weapons stocks (400 tons) by the end of 2000 as prescribed by the Chemical Weapons Convention. The U.S. has destroyed about 15 percent of its chemical weapons stockpile.

\$250M set aside for bio-chem gear

Pugliese, David

<http://ottawacitizen.com/national/010202/5105487.html>

February 2, 2001

Concerns over chemical and biological (CB) agents on the battlefield and in the hands of terrorists has lead the Canadian Forces to spend \$250 million on protective equipment. It is reported that this is the biggest individual investment in the CB protection area that the Canadian Forces has ever seen.

The Corps Will Introduce the First New 'Cammies' in 20 Years

Starr, Barbara

<http://abcnews.go.com/sections/us/DailyNews/camouflage010130.html>

January 30, 2001

The U.S. Marines are now on the cutting edge of fashion - fashion on the battlefield, that is. The new 'cammies' - the specifically designed camouflage uniforms worn by troops on the battlefield - will incorporate a new camouflage pattern that resembles a computerized digital printout of pixels. Other new features include: more brown tones in the print, camouflage print which better reflects the optical realities of the battlefield, permanent press fabric, zip-off long sleeves on the shirt that can instantly convert it to short sleeves for hot weather, reinforced knees in the pants, and high-topped brown suede lace-up boots. Officers will wear black rank insignia on their lapels instead of the shiny silver and gold insignia.

1st sarin gas bomb neutralized

Ednalino, Percy and Theo Stein

<http://www.denverpost.com/news/news0129k.htm>

January 29, 2001

Six Cold War-era nerve gas bomblets containing sarin were found at the Rocky Mountain Arsenal this past fall. So far, one has been successfully destroyed using the Explosive Destruction System (EDS). The remaining bomblets are scheduled for destruction over the next two weeks.

Panel Proposes Single Agency To Oversee Security Issues

Sherman, Jason

Defense News

January 15, 2001

A proposed restructuring of U.S. homeland security would create a single, separate body to deal with homeland security issues. Homeland security is a broad, new concept for defending the nation that is not necessarily limited to a military-centered approach to protecting the U.S. The restructuring would group an array of response teams from a myriad of federal agencies under one body to handle threats to the U.S.

DoD Establishes New Emergency Preparedness Liaison Officer Program Policy

News Release from the United States

Department of Defense: No.012-01

January 10, 2001

The DoD announced today that it has established a new policy for the management of the Emergency Preparedness Liaison Officer (EPLO) programs in each of the military services. The new program guidance reinforces the Department's heightened commitment to support civil authorities in their response to catastrophic disasters and standardizes the qualifications for Reserve component military officers serving as liaisons with military and civilian emergency responders.

Catching The Bug Before It Kills

Brown, Doug

<http://www.zdnet.com/intweek/stories/news/0,4164,2671596,00.html>

January 7, 2001

The U.S. military is preparing to conduct a vast surveillance of web sites and electronic databases aimed at detecting incidents of bioterrorism. The Bio-Surveillance System, a five year, \$24M project sponsored by the Defense Advanced Research Projects Agency (DARPA), will build a network linking various sources of health-related information that will sound the alarm if terrorists have clandestinely used biological weapons such as anthrax spores in a specific location.

Scientists Develop Technology To Detect Bio Agents in Water Supply

Emergency Preparedness News

December 5, 2000

Scientists at the University of North Carolina at Greensboro (UNCG) have developed a gene array technique to detect biological agents in water. The technology uses DNA sequences bound to a microchip or glass slide to detect within seconds the presence of pathogens in water samples. UNCG's effort will be supported by a \$500,000 addition to the FY 2001 VA/HUD appropriations bill that is the first installment of a three-year project.

Barringer Technologies Inc. Signs Development Agreement for Rapid Pathogen Detection

http://biz.yahoo.com/bw/001108/nj_barring.html

November 8, 2000

Barringer Technologies Inc. has signed an

agreement with Lipoxen Technologies, Ltd. of London for the development of a new technique for the rapid screening of pathogens. The objective is to use the IONSCAN™ detector and leading edge liposome technology to develop a detection method which could be used to detect pathogens in food, water and/or air in real time.

Joint Service Chemical, biological protective suit ready for issue to units

Biberdorf, Curt

The Warrior

November-December 2000

The Joint Service Lightweight Integrated Suit Technology (JSLIST) overgarment has been procured since 1997 and will be released from the war reserve to Army units as the Battledress Overgarment (BDO) supply is depleted. Fielding will continue through 2005. The JSLIST replaces three types of chemical and biological protective suits used by the services. The JSLIST provides economical advantages over the previous generations of protective suits. It has a wear life of 45 days, a service life of 120 days and can be washed six times.

CBD News On The Web*

National Defense Magazine Online

<http://nationaldefense.ndia.org>

A Review of the Scientific Literature As It Pertains to Gulf War Illnesses, Volume 5: Chemical and Biological Warfare Agents

By William S. Augerson

http://www.gulflink.osd.mil/library/randrep/bw_paper/

Army Chemical Review Magazine Online

<http://www.wood.army.mil/CHBULLETIN/>

U.S. Government Efforts to Create A Homeland Defense Capability: A Program and Budget Overview of Federal Spending on Counterterrorism and WMD

Center for Strategic and International Studies

By Anthony H. Cordesman

<http://www.csis.org/homeland/reports/budgetoverview.pdf>

Overview of Civil Protection: The U.S. Way

By Anna Johnson-Winegar, Ph.D.

Deputy Assistant to the Secretary of Defense for Chemical and Biological Defense

http://www.homelanddefense.org/Johnson_Winnegar.htm

Proliferation: Threat and Response

DoD Report concerning countries that have or may be developing NBC weapons and the means to deliver them.

<http://www.defenselink.mil/pubs/ptr20010110.pdf>

* The DoD and the CBIAC do not endorse the sites behind these links. We offer them for your additional research.

NEW CBIAC PRODUCTS

Weapons of Mass Destruction Force Protection Joint Service Training

Distribution Limitation: U.S. Federal Government Agencies and their contractors and State and Local Government Agencies; Unclassified

CBIAC Product Number: SOAR-00-02 **Price:** \$95.00

Publication Date: June 2000 **Availability:** CBIAC

Product Category: State-of-the-Art Report **Media:** CD-ROM

Description: PDD 39 directs that U.S. Forces give the highest priority to developing effective capabilities to detect, prevent, defeat, and manage consequences of nuclear, biological, or chemical (NBC) materials or weapons used by terrorists. The current Force Protection training for DoD personnel consists of four levels. Level I training must be conducted for military, DoD civilians, and family members prior to deployment. Level II training is a resident course to prepare officers and NCOs to serve as advisors to unit commanders for Force Protection (FP) matters. Level III is part of the 05/06 level pre-command course, while Level IV is the senior commander/executive level seminar. This CD ROM contains slide shows to assist instructors in giving Level I and Level II courses, along with additional information that will assist officers or NCOs assigned as advisors to the commander for Force Protection matters.



BACWORTH Encyclopedia

Distribution Limitation: U.S. Federal Government Agencies Only; Export Controlled; For Official Use Only

CBIAC Product Number: HB-00-01 **Price:** \$150.00

Publication Date: May 2000 **Availability:** CBIAC

Product Category: Handbook **Media:** CD-ROM

Description: The Biological and Chemical Warfare Online Repository and Technical Holdings (BACWORTH) Encyclopedia contains detailed data on 66 CB agents. Entries include both at-a-glance summaries and detailed description levels. There are also 9 overview functional chapters addressing critical CB defense topics in a non-agent specific format. The Encyclopedia cites more than 1,400 references. Each Agent entry covers 13 topics: Type/Name/Simulants, History, Description/Symptoms, Diagnostics, Properties/Persistence, Exposure/Effects, Prevention/Treatment, Alternate Uses, Precursors, Production/Storage, Detection, Weaponization/Dispersal, and Protection/Decontamination.



Critical Review on Anti-Crop Biological Agents and Associated Technologies

Distribution Limitation: U.S. Federal Government Agencies and Their Contractors Only; Unclassified

CBIAC Product Number: CR-00-02 **Price:** \$25.00

Publication Date: September 2000 **Availability:** CBIAC

Product Category: Critical Review **Media:** Paperback

Description: This critical review is designed to provide the reader with a basic understanding of the principles underlying the use of plant diseases as biological weapons. Based on open literature sources, this critical review provides an extensive list of open litera-

ture information resources for readers who wish to pursue this area of inquiry further. Topics addressed include fungal agents, bacterial diseases, viral diseases, newly emerging diseases, genetically modified anti-crop pathogens, agent production and dissemination, prevention, detection, treatment, and consequence management.

CB Decontamination Market Survey and Tool

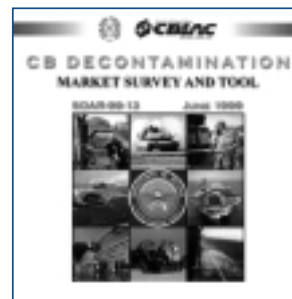
Distribution Limitation: U.S. Federal Government Agencies and their Contractors; Export Controlled; Unclassified

CBIAC Product Number: SOAR-99-13 **Price:** \$95.00

Publication Date: June 1999 **Availability:** CBIAC

Product Category: State-of-the-Art Report **Media:** CD-ROM

Description: This SOAR contains a knowledge-based decontamination database and search tool covering the full range of current commercial and military decontamination technologies and systems, decontamination technologies and systems undergoing development, and ideas for integration of technologies to achieve effective decontamination. The SOAR also contains a version of CBIAC CR-99-10, Wide Area Decontamination: CB Decontamination Technologies, Equipment, and Projects.



Respirator Encumbrance Model

Distribution Limitation: U.S. Federal Government Agencies and their contractors; Unclassified

CBIAC Product Number: SOAR-01-03 **Price:** \$125.00

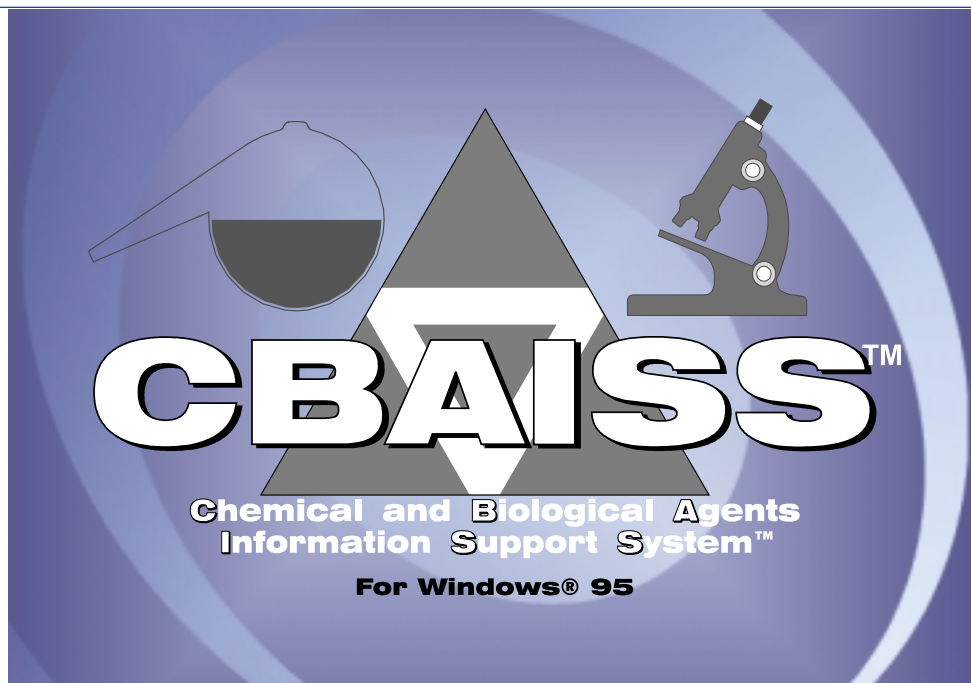
Publication Date: September 2000 **Availability:** CBIAC

Product Category: State-of-the-Art Report **Media:** CD-ROM

Description: The Respirator Encumbrance Model (REM) is a PC Windows'-based database application that provides information on human performance degradation for proposed mask designs. Such modeling minimizes the guesswork, cost, and effort commonly expended to determine effects of new mask designs on wearer operational performance. The REM is a collection of tables, screens, buttons, fact sheets, and lists that interact to provide a fractional human performance rating value for individuals performing military tasks while wearing respirators, along with a bibliographic database. The REM derived task performance ratings represent the expected level of performance relative to performance without a mask. Each performance rating is based on mask design parameters entered and mission or task set selected.



**To order CBIAC Products online,
visit our website at:
<http://www.cbiac.apgea.army.mil>
and select the interactive
Product Request Form.**



Chemical and
Biological
Agents
Information
Support
System™

An affordable, easy-to-use data base of information (medical data, clean-up procedures, properties, etc.) on chemical and biological substances that could be used as weapons of mass destruction or for acts of terrorism.

CBAISS™ offers:

- Validated data
- An uncomplicated, user-friendly interface
- A unique query tool
- Easy setup.

Price: **\$395.00**

Available from: **Emergency Film Group (800) 842-0999**



For more information:

Timothy Spengler

Phone: **(614) 424-7209**

Fax: **(614) 424-7312**

E-mail: **spengler@battelle.org**

Copyright © 1998 Battelle Memorial Institute. All rights reserved.

CBIAC
Aberdeen Proving Ground - Edgewood Area
P.O. Box 196
Gunpowder, MD 21010-0196

Non-Profit
U.S. Postage
Paid
Edgewood, MD
Permit No. 14



Printed on Recycled Paper